

AMENDMENTS TO CLAIMS

Claim 1 (previously presented): A communication session management method for providing a transmission service having a plurality of service-levels, each service-level being associated with a separate quality-of-service (QOS), the method comprising:

preparing data for transmission at one of the plurality of service-levels by uniquely associating a service-level encryption key with said one of the plurality of service-levels;

encrypting said data with said service-level encryption key to form encrypted data uniquely associated with said one of the plurality of service-levels;

transmitting said encrypted data uniquely associated with said one of the plurality of service-levels to users entitled to said one of the plurality of service-levels;

determining that communication load at said one of the plurality of service-levels exceeds a threshold;

in response to a result of the determining step, downgrading to an available service-level that is lower in the QOS hierarchy than said one of the plurality of service-levels; and

distributing to the users entitled to said one of the plurality of service-levels decryption key derivation information for decrypting said encrypted data,

wherein said decryption key derivation information is comprised in an entitlement control message (ECM) and said downgrading step is supported in one of the following modes: an automatic mode; and a mode in which downgrade is made upon confirmation by a user.

Claims 2 - 3 (cancelled)

Claim 4 (original): A method according to claim 1 and wherein said plurality of service-levels are hierarchical according to a QOS hierarchy.

Claim 5 (original): A method according to claim 4 and wherein each one of the plurality of service-levels includes an indication of at least one of the following: a data transmission bandwidth; a number of users that may concurrently connect to the transmission service; a set of transmission applications served; a type of downgrade support to a service-level lower in the QOS hierarchy; a type of disconnect-on-idle operation; and a determination of a Web server to connect to.

Claim 6 - 7 (cancelled)

Claim 8 (previously presented): A method according to claim 1 and wherein said downgrading step comprises:

identifying the available service-level that is lower in the QOS hierarchy than said one of the plurality of service-levels;

encrypting said data with an encryption key uniquely associated with said available service-level that is lower in the QOS hierarchy than said one of the plurality of service-levels to form encrypted data uniquely associated with said service-level that is lower in the QOS hierarchy; and

transmitting said encrypted data uniquely associated with said service-level that is lower in the QOS hierarchy to users entitled to said one of the plurality of service-levels.

Claim 9 (original): A method according to claim 1 and wherein the transmission service comprises at least one of the following: a unicast transmission; and a multicast transmission.

Claim 10 (original): A method according to claim 1 and wherein said users comprise at least one of the following: individual users; and users of an Intranet.

Claim 11 (previously presented): A method according to claim 1 and wherein said encrypting step is performed in a PID layer.

Claim 12 (original): A method according to claim 1 and also comprising the step of enabling the users entitled to said one of the plurality of service-levels to decrypt said encrypted data according to service-level entitlements of the users.

Claim 13 (original): A method according to claim 1 and wherein said data comprises at least one of the following: any type of computerized data; video information; audio information; and multimedia.

Claim 14 (original): A method according to claim 13 and wherein said data comprises on-demand data.

Claim 15 (previously presented): A system at a headend for providing a transmission service having a plurality of service-levels, each service-level being associated with a separate quality-of-service (QOS), the system comprising:

- a management unit for preparing data for transmission at one of the plurality of service-levels by uniquely associating a service-level encryption key with said one of the plurality of service-levels;

- an encryptor operatively associated with said management unit and operative to encrypt said data with said service-level encryption key to form encrypted data uniquely associated with said one of the plurality of service-levels; and

- a transmitter unit operatively associated with said management unit and said encryptor and operative to transmit said encrypted data uniquely associated with said one of the plurality of service-levels to users entitled to said one of the plurality of service-levels,

- wherein the management unit is operative to:

- determine that communication load at said one of the plurality of service-levels exceeds a threshold;

- in response to a determination that communication load at said one of the plurality of service-levels exceeds the threshold, downgrade to an available service-level that is lower in the QOS hierarchy than said one of the plurality of service-levels; and

distribute to the users entitled to said one of the plurality of service-levels decryption key derivation information for decrypting said encrypted data,

wherein said decryption key derivation information is comprised in an entitlement control message (ECM) and said downgrade is supported in one of the following modes: an automatic mode; and a mode in which downgrade is made upon confirmation by a user.

Claim 16 (original): A system according to claim 15 and wherein said data comprises at least one of the following: any type of computerized data; video information; audio information; and multimedia.

Claim 17 (original): A system according to claim 16 and wherein said data comprises on-demand data.

Claim 18 (original): A system according to claim 15 and wherein each one of the plurality of service-levels includes an indication of at least one of the following: a data transmission bandwidth; a number of users that may concurrently connect to the transmission service; a set of transmission applications served; a type of downgrade support to a service-level lower in the QOS hierarchy; a type of disconnect-on-idle operation; and a determination of a Web server to connect to.

Claim 19 - 20 (cancelled)

Claim 21 (previously presented): The method according to claim 1 and wherein the user is given a choice between:

downgrading to a service-level that is lower in the QOS hierarchy; and
waiting until the service level to which the user is subscribed is available.

Claim 22 (previously presented): A method according to claim 1 and wherein said downgrading step is supported in a mode in which downgrade is made upon confirmation by the user.

Claim 23 (previously presented): A system according to claim 15 and wherein said downgrade is made upon confirmation by the user.

Claim 24 (cancelled)

Claim 25 (currently amended): ~~A method according to claim 20 and A communication session management method for providing a transmission service having a plurality of service-levels, each service-level being associated with a separate quality-of-service (QOS), the method comprising:~~

preparing data for transmission at one of the plurality of service-levels by uniquely associating a service-level encryption key with said one of the plurality of service-levels;

encrypting said data with said service-level encryption key to form encrypted data uniquely associated with said one of the plurality of service-levels;
and

transmitting said encrypted data uniquely associated with said one of the plurality of service-levels to users entitled to said one of the plurality of service-levels,

wherein said plurality of service-levels are hierarchical according to a QOS hierarchy, and

each one of the plurality of service-levels includes an indication of a type of downgrade support to a service-level lower in the QOS hierarchy.

Claim 26 (currently amended): ~~A method according to claim 20 and A communication session management method for providing a transmission service having a plurality of service-levels, each service-level being associated with a separate quality-of-service (QOS), the method comprising:~~

preparing data for transmission at one of the plurality of service-levels by uniquely associating a service-level encryption key with said one of the plurality of service-levels;

encrypting said data with said service-level encryption key to form encrypted data uniquely associated with said one of the plurality of service-levels;
and

transmitting said encrypted data uniquely associated with said one of the plurality of service-levels to users entitled to said one of the plurality of service-levels.

wherein said plurality of service-levels are hierarchical according to a QOS hierarchy, and

each one of the plurality of service-levels includes an indication of a type of disconnect-on-idle operation.

Claim 27 (cancelled)